July 2016

Delaware State Report

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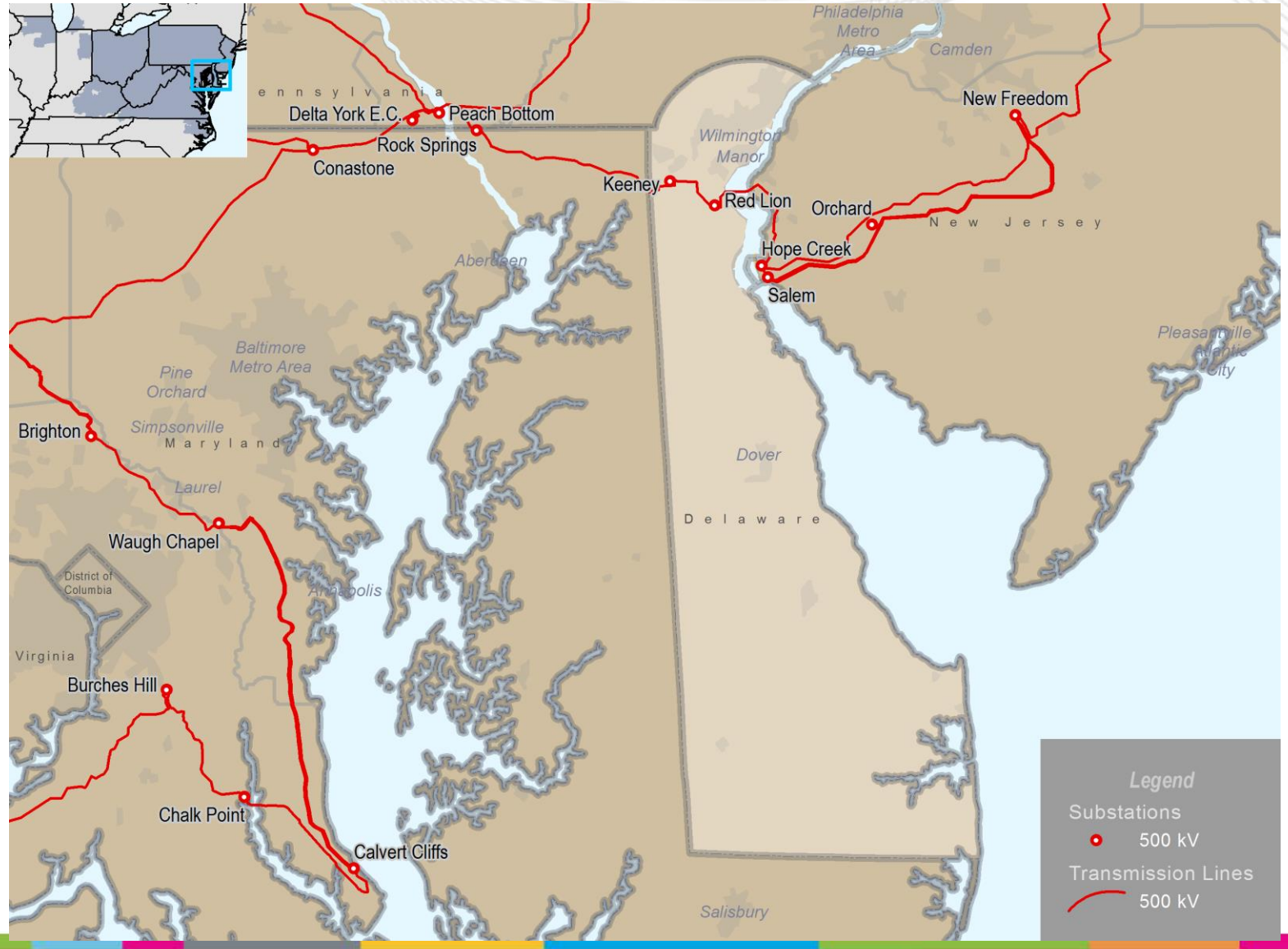
Executive Summary

(July 2016)

- **Existing Capacity:** Natural gas represents approximately 62 percent of the total installed capacity in Delaware while coal represents approximately 13 percent. This differs from PJM where natural gas and coal are relatively even at 34 and 35 percent respectively.
- **Interconnection Requests:** Natural gas represents more than 86 percent of new interconnection requests in Delaware.
- **Deactivations**: Approximately 34 MW of capacity in Delaware announced retirement in 2015.
- **Load Forecast:** Delaware load growth is nearly flat, averaging between .4 percent in the summer and .7 percent in the winter per year over the next 10 years. This aligns with PJM RTO load growth projections.
- **Natural Gas:** All of Delaware's natural gas generation is connected to interstate pipelines.

PJM Service Area – Delaware

(December 31, 2015)



This map illustrates Delaware as well as the eastern shore of Maryland and part of Virginia on the Delmarva Peninsula which includes the Delaware Municipal Electric Corporation (DEMEC), Delmarva Power & Light (DPL) and Old Dominion Electric Cooperative (ODEC). Customers are served by local generation and power transfers across tie-line facilities onto the peninsula from sources in other parts of PJM and beyond.

Planning

Generation Portfolio Analysis

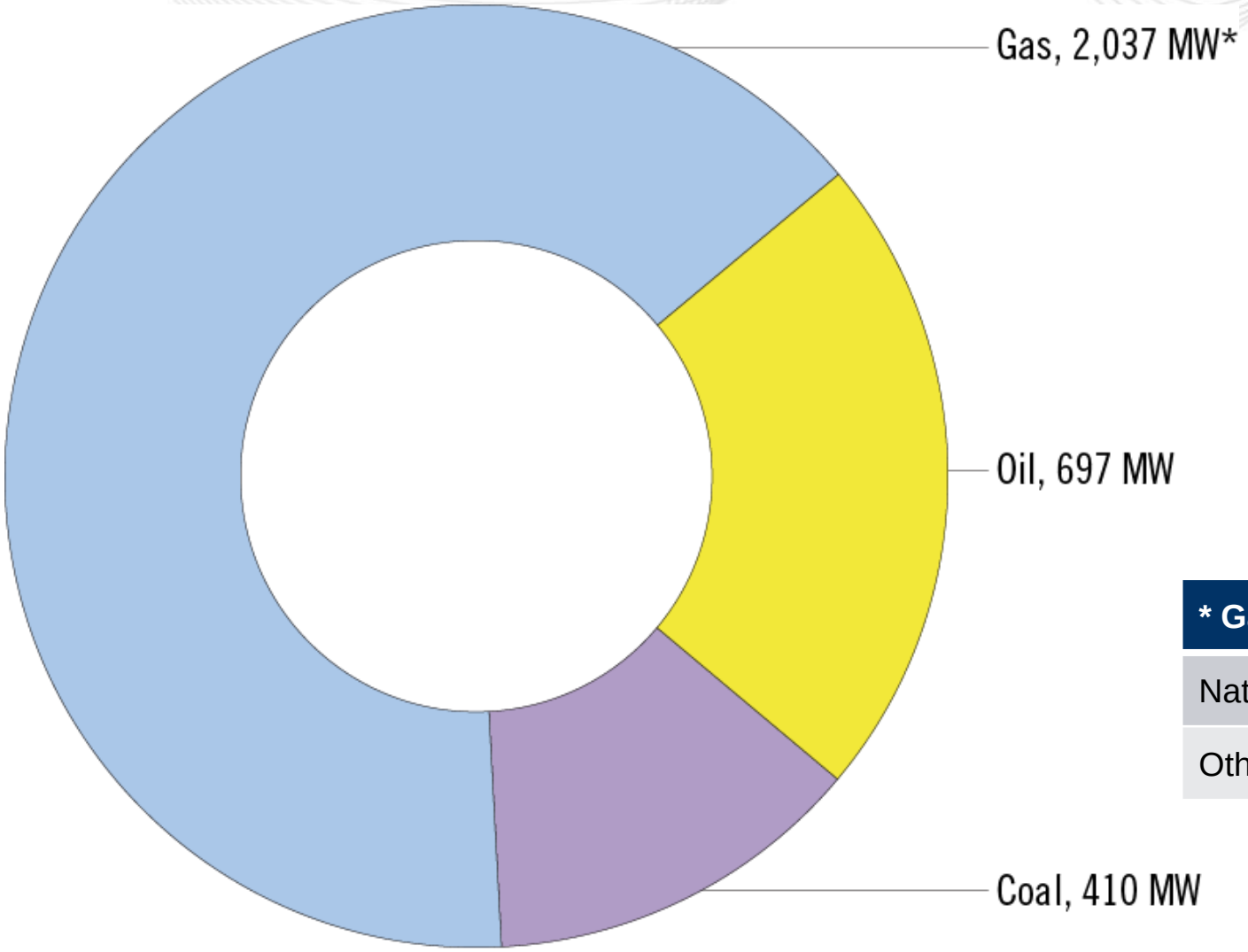
Delaware – Existing Installed Capacity

(Capacity Rights, December 31, 2015)

Summary:

Natural gas represents approximately 62 percent of the total installed capacity in Delaware while coal represents approximately 13 percent.

Overall in PJM, natural gas and coal are relatively even at 34 percent and 35 percent respectively.



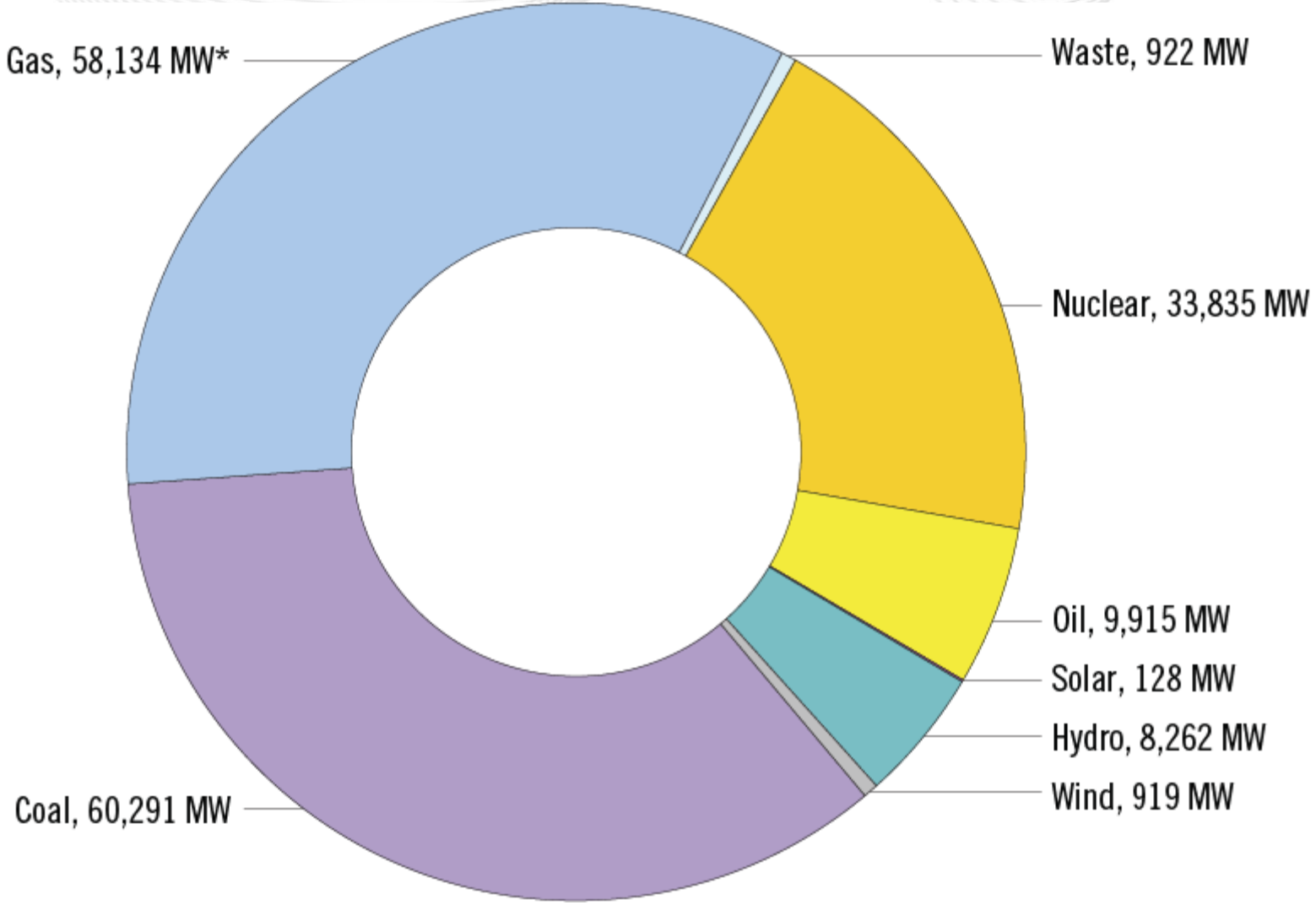
* Gas Contains	
Natural Gas	2,029 MW
Other Gas	8 MW

PJM - Existing Installed Capacity

(Capacity Rights, December 31, 2015)

In PJM, natural gas and coal make up nearly 70 percent total installed capacity.

* Gas Contains	
Natural Gas	57,735 MW
Other Gas	399 MW

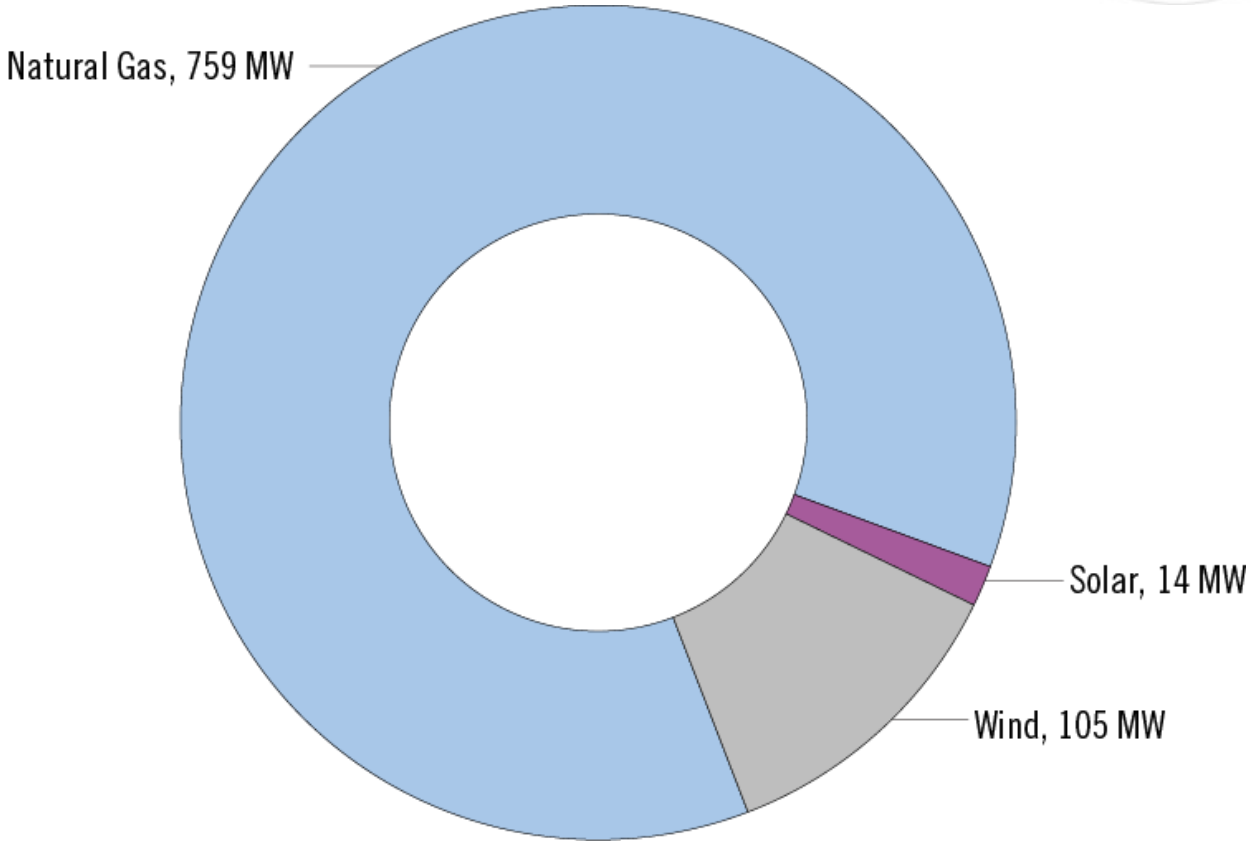


Delaware – Interconnection Requests

(Capacity Rights, December 31, 2015)

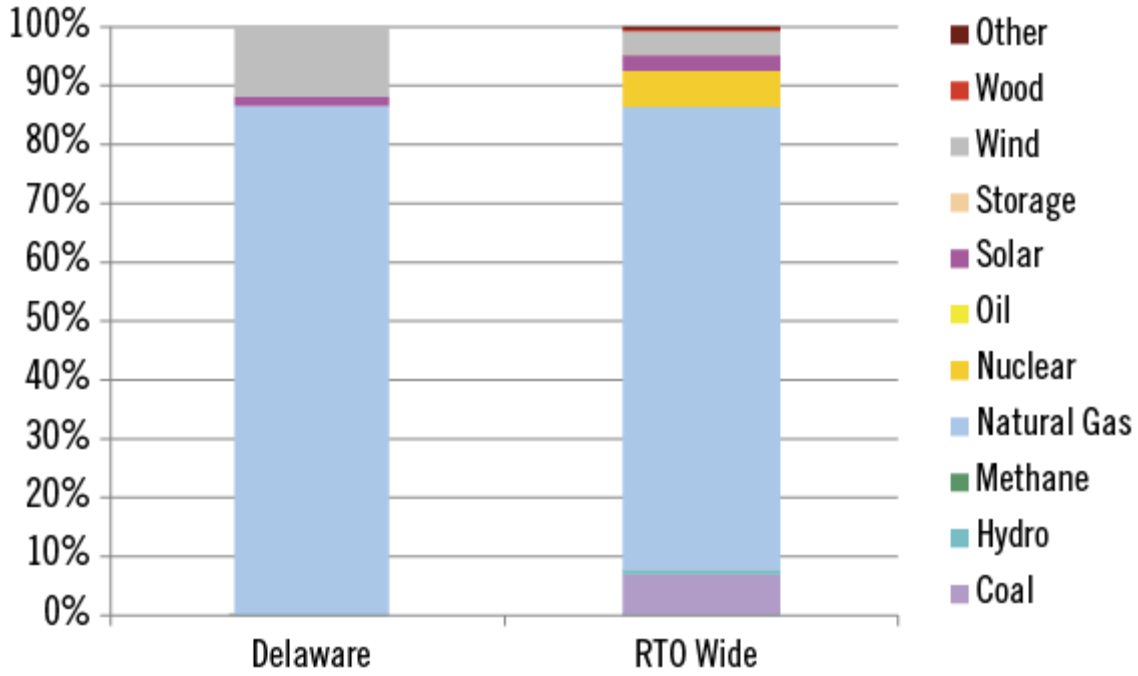
Natural Gas represents more than 86 percent of new interconnection requests.

Total MW Capacity by Fuel Type



	MW	# of Projects
Active	570.0	3
Under Construction	17.0	3
Suspended	291.0	1
Total	**878.0**	**7**

Fuel as a Percentage of Projects in Queue



Delaware - Interconnection Requests

(Requested Capacity Rights, December 31, 2015)

	Active		In Service		Suspended		Under Construction		Withdrawn		Total Sum	
	MW	# of Projects	MW	# of Projects	MW	# of Projects	MW	# of Projects	MW	# of Projects	MW	# of Projects
Biomass	0.0	0	0.0	1	0.0	0	0.0	0	0.0	0	0.0	1
Coal	0.0	0	23.0	2	0.0	0	0.0	0	630.0	1	653.0	3
Hydro	-	-	-	-	-	-	-	-	-	-	-	-
Methane	0.0	0	9.0	4	0.0	0	0.0	0	0.0	0	9.0	4
Natural Gas	451.0	1	1,078.1	17	291.0	1	17.0	2	5,265.4	18	7,102.5	39
Oil	0.0	0	168.2	5	0.0	0	0.0	0	1.0	1	169.2	6
Solar	14.0	1	0.0	0	0.0	0	0.0	1	100.4	9	114.4	11
Storage	0.0	0	0.0	0	0.0	0	0.0	0	45.0	4	45.0	4
Wind	105.0	1	0.0	0	0.0	0	0.0	0	290.0	3	395.0	4
Wood	-	-	-	-	-	-	-	-	-	-	-	-
Other	0.0	0	30.0	2	0.0	0	0.0	0	0.0	0	30.0	2
Total	**570.0**	**3**	**1,308.3**	**31**	**291.0**	**1**	**17.0**	**3**	**6,331.8**	**36**	**8,518.1**	**74**

Delaware - Progression History Interconnection Requests

(Requested Capacity Rights, 1999 - 2015)

Following ISA/WMPA execution 129 MW of capacity with ISAs and 13 MW of capacity with WMPAs withdrew from PJM's interconnection process. Another 308 MW have executed agreements but were no in service as of December 31, 2015. Overall, 16% of requested capacity MW reaches commercial operation.

Delaware – 2015 Generation Deactivations

(MW Capacity, as of December 31, 2015)

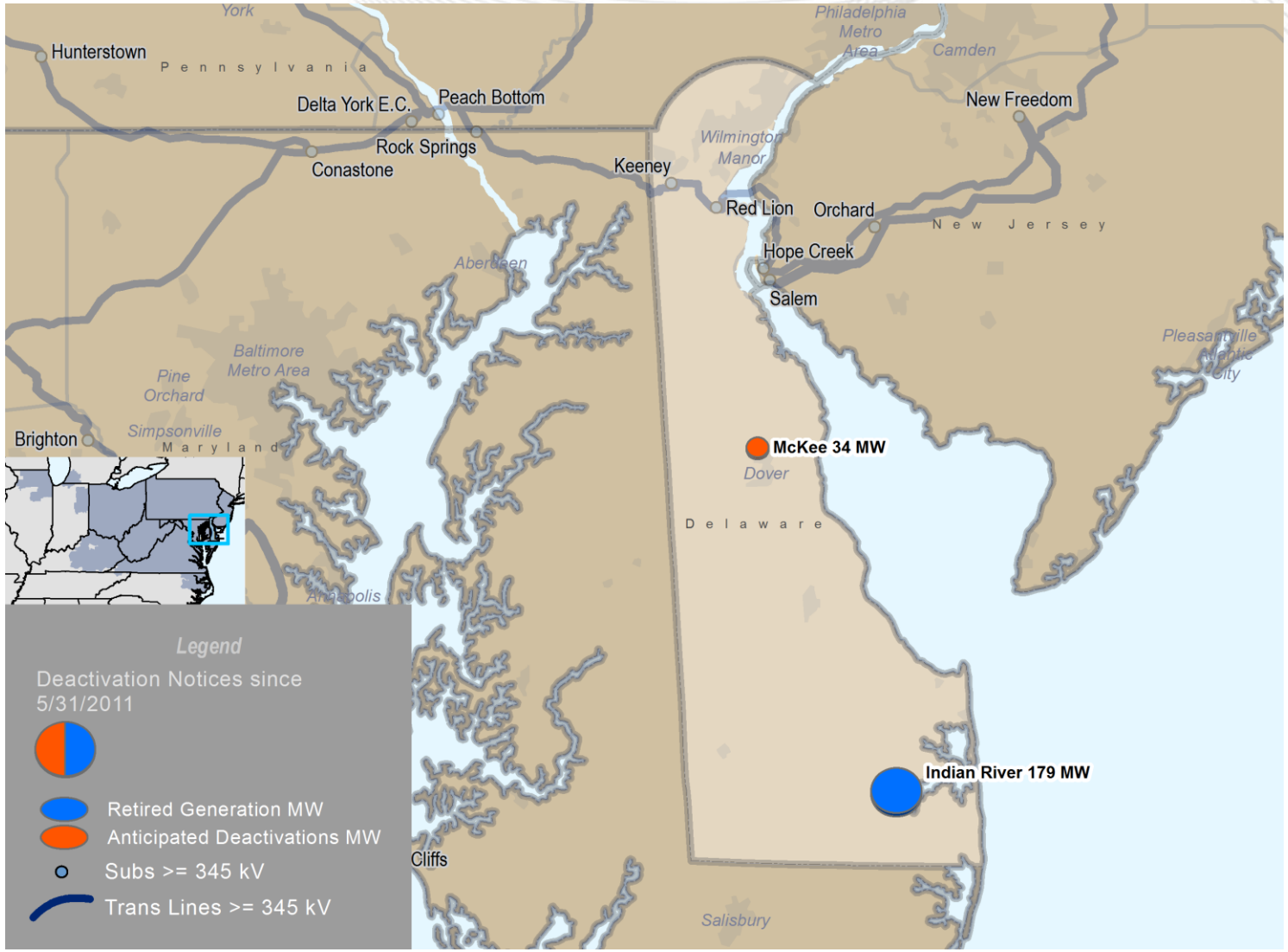
Unit	MW Capacity	TO Zone	Age	Owner Request	Actual/Projected Deactivation Date
McKee 1	17	DPL	52	2/19/2014	5/31/2017
McKee 2	17	DPL	52	2/19/2014	5/31/2017

Summary:

- Approximately 34 MW of capacity in DE announced future deactivation in 2015.
- The average unit age was 52 years.

Delaware – 2015 Generation Deactivations

(MW Capacity, as of December 31, 2015)



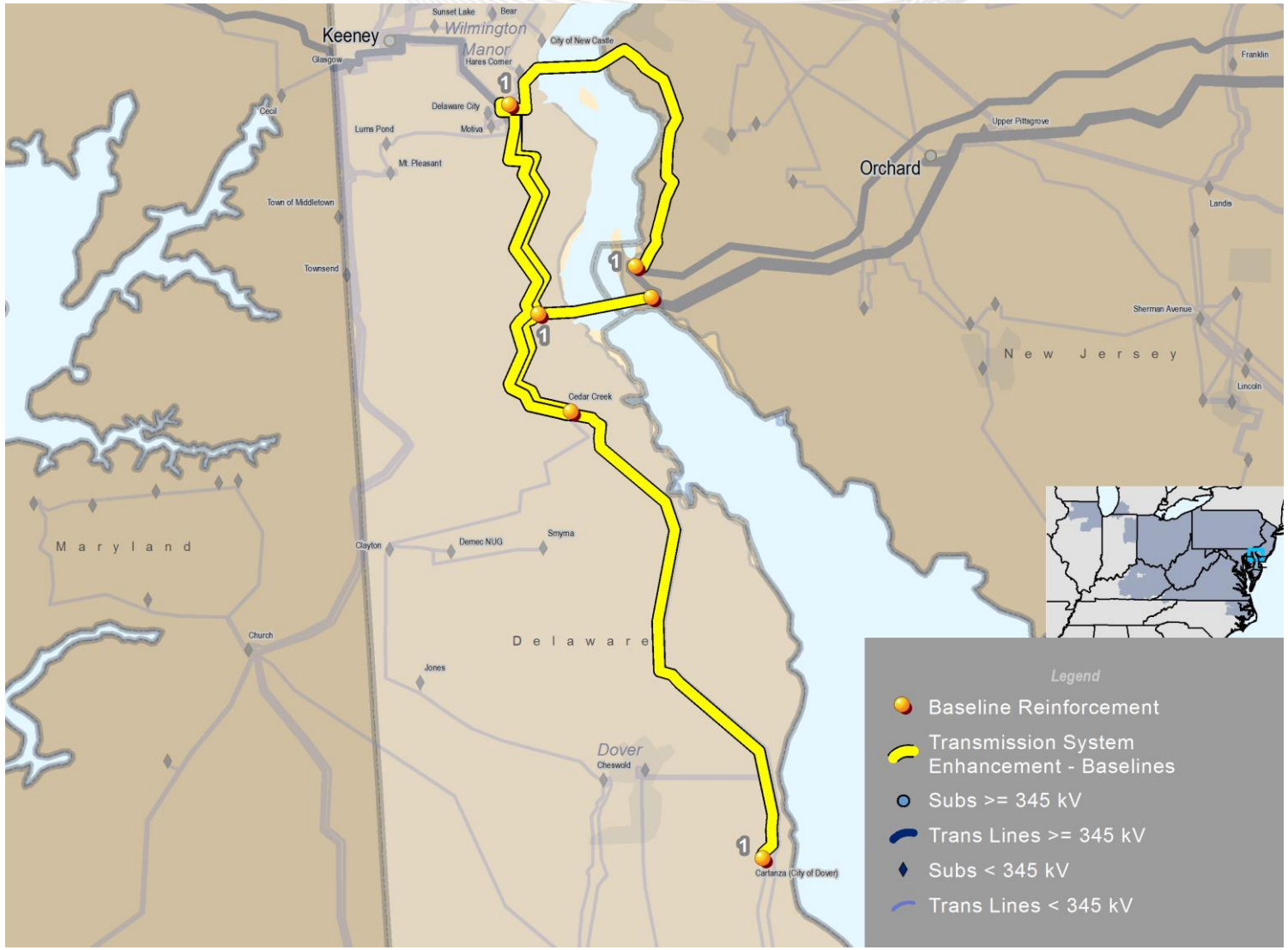
Known generating unit deactivation requests in Delaware between January 1, 2015 and December 31, 2015.

Planning

Transmission Infrastructure Analysis

Delaware - RTEP Baseline Projects

(Approved in 2015, greater than $10 million)



Baseline Projects are transmission enhancements identified as part of reliability criteria tests, operational performance issues and market efficiency studies that identify upgrade need driven by thermal, voltage, short circuit, stability and light load issues

Delaware - RTEP Baseline Projects

(Approved in 2015, greater than $10 million)

Map ID	Project ID	Project	DE Baseline Project Drivers: Baseline Load Growth / Deliverability & Reliability	DE Baseline Project Drivers: Congestion Relief - Economic	DE Baseline Project Drivers: Operational Performance	DE Baseline Project Drivers: Generator Deactivation	DE Baseline Project Drivers: TO Criteria Violation	Date	Cost (M)	TO Zone(s)	2015 TEAC Review
1	b2633.1	Build a new 230 kV transmission line between Salem and Silver Run.			•			4/1/2019	$146.00	LS Power	4/28/2015
	b2633.10	Interconnect the new Silver Run 230 kV substation with existing Red Lion-Cartanza and Red Lion-Cedar Creek 230 kV lines.			•			4/1/2019	$2.00	DPL	4/28/2015
	b2633.2	Construct a new Silver Run 230 kV substation.			•			4/1/2019	$16.40	LS Power	4/28/2015
	b2633.7	Implement high speed relaying utilizing OPGW on Red Lion-Hope Creek 500 kV line.			•			4/1/2019	$0.50	DPL	4/28/2015

Planning

Load Forecast

Delaware - 2016 Load Forecast Report

(December 31, 2015)

	Summer Peak (MW)			Winter Peak (MW)		
T. O.	2016	2026	Growth Rate (%)	2015/16	2025/26	Growth Rate (%)
Delmarva Power and Light *	2,660	2,756	0.4%	2,275	2,261	0.7%
PJM RTO	130,243	140,912	0.8%	152,131	161,891	0.6%

* PJM notes that Delmarva Power and Light serves load other than in Delaware. The Summer Peak and Winter Peak MW values in this table each reflect the estimated amount of forecasted load to be served by Delmarva Power solely in Delaware. Estimated amounts were calculated based on the average share of Delmarva Power's real-time summer and winter peak load located in Delaware over the past five years.

Note: The improved load forecast methodology was used to develop the 2016 and beyond load forecast. This methodology accounts for energy efficiency and utilizes more current weather data.

Operations

Gas Pipeline Information

Delaware - Natural Gas Statistics

(March 31, 2016)

Gas Generators	Dual Fuel Capable (MW)	Total Generator (MW)
Connected to Interstate Pipelines	2,100	2,700 (100%)
Behind the Local Distribution Company	0	0 (0%)
Total Gas Fired Generators	**2,100**	**2,700**

Interstate Pipelines
Columbia Gas Transmission (COL)
Eastern Shore Natural Gas Company
Texas Eastern Transmission - Spectra Energy (TETCO)
Transcontinental Gas Pipe Line (Transco)